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Before the
Federal Communications Commission
Washington, D.C.

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)	
)	
Interconnection and Resale Obligations)	CC Dkt. No. 94-54
Pertaining to Commercial Mobile)	
Radio Services)	DA No. 97-2558
)	

COMMENTS OF OMNIPOINT COMMUNICATIONS, INC.

Omnipoint Communications, Inc. ("Omnipoint"), by its attorneys, files these comments to provide the Commission with additional input on automatic roaming from the perspective of the holder of a Block A license, Block C licenses and Block D, E, and F licenses.¹ Omnipoint, through its affiliates, holds the New York MTA Block A license, 18 Block C PCS licenses for which it bid a net price of \$509 million, and 108 Block D, E and F licenses for which it bid a net price of \$181 million (including 50 Block F licenses at a net price of \$74 million). Omnipoint currently operates PCS systems in a number of markets, including New York City and Philadelphia, and will soon be launching service in Boston and Miami. Each of these systems currently supports automatic roaming, as further discussed herein.

Omnipoint supports a Commission mandate for automatic roaming between *technically compatible* CMRS networks that deploy *technically compatible* handsets. Omnipoint suggests that any carrier offering roaming service must charge the same price

¹ The Commission has requested additional comment, pursuant to Public Notice, DA 97-2558 (rel. Dec. 5, 1997) (the "Public Notice").

to all other carriers seeking roaming service on their network. Omnipoint further believes that any mandate by the Commission requiring automatic roaming for compatible systems should expire after five years. A five year time table will allow new business entrants to build out their systems without suffering under the competitive disadvantage of not having access to fair and nondiscriminatory roaming during that time, thereby further promoting market competition.

Having stated the above, Omnipoint also believes that it is equally important for the Commission to avoid excessive regulation of the roaming relationship between carriers. As the Commission has noted, roaming "is important to the development of nationwide, ubiquitous, and competitive wireless voice communications" ² Roaming is especially important for carriers, like Omnipoint, that are small business new entrants competing with established incumbent cellular providers. Thus, the Commission should establish a mandate for automatic roaming that simply provides the ground-rule requirements to provide for automatic roaming on a non-discriminatory basis for pricing, terms and conditions and a forum for dispute resolution. ³ Once in place, the Commission should refrain from a plethora of regulations micromanaging every detail of roaming arrangements. Carriers and the public are far better served by leaving some contractual flexibility between the parties.

Omnipoint offers the following in response to some of the specific issues raised by the Commission's Public Notice:

² Second Report and Order and Third Notice of Proposed Rulemaking, CC Dkt. No. 94-54, 11 FCC Rcd. 9462, 9464 (1996).

³ See, e.g., 47 C.F.R. § 20.12(a) (mandate for PCS resale obligation, which is enforced on case-by-case basis through Commission complaint process).

I. Ability of PCS New Entrants, Like Other CMRS Carriers, To Offer
Roaming Depends on Network and Handset Compatibility

Omnipoint has the ability to provide roaming to its customers on GSM-compatible networks,⁴ and other GSM providers are technically capable of and do offer roaming service to their customers on the Omnipoint systems. Every GSM provider can (1) verify roamer's account status through that mobile customer's Mobile Subscriber Identity Number ("IMSI"),⁵ and (2) obtain proper billing information to charge for the roaming service, if the GSM provider has automatic access to databases within the roamer's home network. Automatic roaming between two CMRS networks thus requires two essential elements, "handset compatibility" and "network compatibility." Omnipoint has and will continue to offer this type of roaming on a non-discriminatory basis to all of its competitive customers.

"Handset compatibility" means that the roamer's handset utilizes the same air interface technology and protocol as the serving network. Additionally, the handset must be capable of transmitting and receiving at the assigned frequencies of the serving network.⁶ There are currently at least three technologies operating in the 800 MHz

⁴ GSM - Global System for Mobile communications - is one of the technologies available to PCS licensees for the provision of service.

⁵ In GSM technology, the IMSI is a unique identifier for each subscription. It resides in the Subscriber Identity Module (SIM), which is a small integrated circuit-based "personality module" that is inserted into a handset.

⁶ Omnipoint's international roaming to Europe, for example, where frequency assignments differ from those in the U.S., requires a customer to transfer the SIM from the customer's home network handset to a handset that is compatible with the roaming network, *i.e.*, that operates at European network GSM frequency bands. Since SIMs are internationally standardized across all international GSM networks, this form of roaming is quite feasible. In the future, a true international GSM phone will become available, capable of operating on both U.S. and European frequency bands.

frequency cellular band, including AMPS, CDMA and TDMA.⁷ At the 1.9 GHz PCS band, CMRS networks use incompatible TDMA, CDMA and GSM air interface standards and furthermore, in this frequency range there is no "least common denominator" technology. Covered SMR carriers are also using both IDEN and FHMA in the 800-900 MHz SMR bands. None of these air interface technology standards are currently compatible with one another, which makes it impossible for automatic roaming across networks using different standards. Of course, where multi-mode handsets provide compatibility between two or more technologies, automatic roaming should be available on a non-discriminatory basis.⁸

In addition, "network compatibility" between two or more CMRS operators involves several essential elements. This process in a GSM network is as follows.⁹ First, the CMRS network serving the roamer must: (a) identify the roamer, (b) identify the roamer's home CMRS network, and (c) launch a query using Signaling System 7 to verify the roamer's identity and billing status from the home CMRS network. Once queried, the CMRS operator whose customer is the roamer must (a) receive the SS7 query, (b) gather the required information from the Home Location Register or equivalent

⁷ Other technologies at 800 MHz include NAMPS (narrow-band AMPS). It seems, however, that the "least common denominator" of 800 MHz systems remains analog AMPS and this will remain the case for the foreseeable future.

⁸ Omnipoint understands, for example, that some TDMA and CDMA 800 MHz handsets incorporate analog AMPS modes. Some CDMA 1.9 GHz handsets also incorporate 800 MHz CDMA and AMPS modes as well. Dual mode/band 1.9 GHz GSM/800 MHz AMPS phones have only been recently been introduced.

⁹ Omnipoint believes that a similar process is followed in other technologies. However, the SS7 query is replaced by other mechanisms, e.g., IS-41B/IS-41C, and the terminology used to describe various network elements and actions may differ.

database, and (c) forward that information to the serving CMRS network.¹⁰ The serving network must then update its Visitor Location Register or equivalent. The information transmitted between two networks must be technically compatible and consistent. Finally, after initiation of a roamer's communication, the serving network must be capable of recording the necessary call details and generating a bill to the home network. The bill may be either rendered directly or via a clearinghouse specializing in such transactions.

If either of two networks is incapable of supporting the interworking of any of these elemental functions, or if the roamer's handset is not compatible with the serving network, then automatic roaming is not possible. For these reasons, the Commission cannot mandate automatic roaming in circumstances where either of "handset compatibility" or "network compatibility" elements is not satisfied between two CMRS operators, as it is not technically possible.

II. CMRS Carriers Must Charge Fair and Non-Discriminatory Roaming Fees to Other Carriers

Automatic roaming on compatible networks and handsets must be offered on a non-discriminatory basis to other carriers to promote market competition and prevent new entrants from operating at a competitive disadvantage until they have build out their networks.

Existing cellular networks have roaming agreements with other carriers already in place. These networks should not be allowed to use their market power to unduly

¹⁰ Many cellular operators offer classes of service that bar roaming. For example, a business may wish to control its costs by restricting mobile phone use to only the home market. The Commission should, of course, refrain from adopting automatic roaming rules that over-ride the ability of CMRS operators to offer roaming-restricted service plans and consumers to elect such a service.

discriminate against new entrants as they build out their networks. Every CMRS carrier should provide equal prices, as well as terms and conditions for roaming service to any other CMRS carrier for the period that the automatic roaming mandate is in effect. A five year time frame for the automatic roaming mandate allow sufficient time for new entrants to build out their networks without suffering from the unduly burdensome competitive disadvantage provided by discriminatory roaming fees. For its part, Omnipoint will charge all domestic CMRS carriers the same roaming rates and will not discriminate between carriers.

III. Omnipoint Strives to Offer Its Customers A Variety of Compatible Roaming Wireless Networks Across the Country and Around the World.

Omnipoint currently has roaming agreements for its customers with over 70 CMRS providers, including international roaming agreements in more than 20 countries.¹¹

In general, automatic roaming arrangements between carriers provide PCS services to individual roaming subscribers who have current accounts with their home CMRS network.¹² Periodically, each operator to the roaming agreement prepares an invoice of the costs of all calls registered for visiting subscribers. To the extent the respective costs do not offset each other between two contracting carriers, the debtor

¹¹ As indicated, international roaming is becoming a significant aspect of GSM operations in the U.S. If the Commission accepts Omnipoint's recommendation to mandate equal roaming charges, some special consideration must be given to international roaming. We suggest that international roaming charges be exempted from any requirement of non-discrimination. We do not suggest that the Commission attempt to mandate lower international roaming charges along the fashion it has with respect to international fixed network calls.

¹² The subscriber's account must be one that includes roaming privileges. *See supra* note 10.

carrier pays the net balance amount. In addition, the operator of the serving network is solely responsible for billing taxes and levies to the visitor. Each carrier informs its own customers about the roaming coverage under such agreements.

IV. CMRS Carriers Should Continue to be Allowed to Offer Service Plans
Limiting or Excluding Roaming Privileges

Omnipoint notes that it is not technically feasible to offer roaming service for certain groups of customers. For example, automatic roaming is not possible for Omnipoint's customers that choose to subscribe to its pre-pay service.¹³ The Omnipoint service plan for pre-pay customers specifically excludes the use of the service in a roaming environment. Special Real-Time Rater computer billing equipment and software exists on Omnipoint's network which automatically decreases account balances for pre-pay customers as they make calls and use other services. In order to offer roaming service to pre-pay customers, this Real Time Rater function would have to be transferred to the visited network to keep track of account balances. There is no standard for this process, so roaming is not available for these customers. However, such pre-pay customers are able to make 911 emergency calls when they are roaming if the roamed network allows it.

CMRS operators offering pre-pay service have implemented their billing systems differently; some operators do not offer pre-pay service at all. Rather than regulatory

¹³ Pre-pay service involves a customer purchasing in advance a fixed amount of service, usually a minimum of \$50. As the customer places calls or uses other services, such as paging or short e-mail, his account balance is automatically debited. When the account balance reaches zero, service is temporarily suspended until another purchase of service is made. Pre-pay service is attractive to many different consumer groups, including those unable to establish a satisfactory credit history enabling them to obtain traditional "bill in arrears" service or others who wish to control their usage of the service.

mandates for customers choosing the pre-pay service, the Commission should permit technology and consumer demand control when, and if, pre-pay customers obtain automatic roaming capability. A similar approach should apply to other service plans that offer customer options to restrict roaming.

V. Omnipoint's Roaming Service Is Compatible With Number Portability Requirements

With GSM technology, the network identifies a user with its unique IMSI. The Commission's number portability requirements would not affect roaming, because roaming is controlled by the IMSI, not the subscriber's telephone number.¹⁴ Further, Omnipoint notes that while an Omnipoint subscriber has the ability to have several numbers for the same handset, the subscriber still maintains only one IMSI.

Conclusion

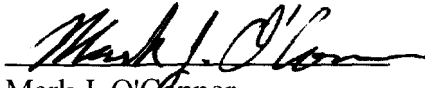
Omnipoint believes that an appropriate automatic roaming mandate, for *technically compatible* CMRS networks that deploy *technically compatible* handsets,

¹⁴ In GSM terminology, the telephone number associated with an IMSI is known as the MSISDN (mobile station integrated services data network number). The association between the IMSI and MSISDN exists in the Home Location Register (HLR) database at the customer's home GSM network. The home network remains responsible for implementing local number portability.

operating within a five year time frame and requiring roaming to be offered on a non-discriminatory basis between carriers, would improve competition in the CMRS industry.

Respectfully submitted,

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